Middle Mile Access (10 out of 10 Points Possible) – is measured based on a community's availability to fiber. Three aspects of availability exist: proximity to middle mile points of presence (POPs), number of POPs available, and available bandwidth. Data was collected by the community in coordination with Connected Nation.

- **Gillespie County is served by 2 or more middle mile fiber providers.**

Mobile Broadband Availability (6 out of 10 Points Possible) – is measured by analyzing provider availability of mobile broadband service gathered by Connected Nation's broadband mapping program. In communities that may have mobile broadband data missing, community teams were able to improve the quality of data to ensure all providers are included.

- **According to the October 2012 data collected by Connected Texas, 94.69% of Gillespie County residents had access to mobile broadband service.**

ADOPTION Score Breakdown

Digital Literacy (6 out of 10 Points Possible) – is measured by first identifying all digital literacy programs in the community. Once the programs are determined, a calculation of program graduates will be made on a per capita basis. A digital literacy program includes any digital literacy course offered for free or at very low cost through a library, seniors center, community college, K-12 school, or other group serving the local community. A graduate is a person who has completed the curriculum offered by any organization within the community. The duration of individual courses may vary. A listing of identified digital literacy offerings is below.

Organization Name	Program Description	Number of Grads
FISD Community Education	Various Computer Classes	75
Golden Hub Community Center	Basic Computer Skills Training	25

Public Computer Centers (10 out of 10 Points Possible) – is measured based on the number of hours computers are available each week per 1,000 low-income residents. Available computer hours is calculated by taking the overall number of computers multiplied by the number of hours open to a community during the course of the week. A listing of public computer centers available in Gillespie County is below.

Organization Name	Number of Open Hours per Week	Number of Computers	Available Computer Hours per Week
Pioneer Memorial Library	47	4	188
Harper Library	43	7	301
Golden Hub	40	4	160
Texas Workforce Commission	8	1	8

Broadband Awareness (10 out of 10 Points Possible) – is measured based on the percentage of the population reached. All community broadband awareness programs are first identified, and then each program's community reach is compiled and combined with other campaigns. A listing of broadband awareness programs in Gillespie County is below.

Organization Name	Campaign Description	Community Reach
FISD Community Education	Mailing of course offerings twice/year	80% (est.)
Fredericksburg Chamber of Commerce	Provides access to websites for local business	100%
Gillespie County	Online services available to community (bill pay, etc.)	100%
City of Fredericksburg	Online services available to community (bill pay, etc.)	100%

Vulnerable Population Focus (10 out of 10 Points Possible) – A community tallies each program or ability within the community to encourage technology adoption among vulnerable groups. Methods of focusing on vulnerable groups may vary, but explicitly encourage technology use among vulnerable groups. Example opportunities include offering online GED classes, English as a Second Language (ESL) classes, video-based applications for the deaf, homework assistance for students, and job-finding assistance. Communities receive points for each group on which they focus. Groups may vary by community, but include low-income, minority, senior, children, etc. A listing of programs focusing on vulnerable populations in Gillespie County is listed below.

Organization Name	Program Description	Vulnerable Group
FISD Community Education	GED Classes	Low income, minority
FISD Community Education	ESL Classes	Low income, minority, senior
FISD Community Education	American Sign Language Classes	Disabled
Harper Library	Adult Literacy (GED & ESL Classes)	Low income, minority, senior
Boys and Girls Club	Power Hour (homework help & tutoring)	Children
Boys and Girls Club	Career Launch (skills/interest assessment)	Children
Boys and Girls Club	Money Matters (financial literacy)	Children
Golden Hub Community Center	Computer Skills Training	Senior Citizens
Texas Workforce Commission	Provides a computer for applicants to use to apply for a job	Low income, minority, senior

USE Score Breakdown

Economic Opportunity (10 out of 10 Points Possible) – A community receives one point per basic use of broadband and two points per advanced use of broadband. Categories within economic opportunity include: economic development, business development, tourism, and agriculture. Identified uses of broadband in the area of economic opportunity are listed below and identified as basic or advanced.

Application Provider	Description	Basic / Advanced
Fredericksburg Convention and Visitor Bureau	Website to promote visitation to Fredericksburg and Gillespie County	Advanced
Fredericksburg Chamber of Commerce	Website to promote business and economic development	Advanced
Gillespie County AgriLife Extension	Provides news and contact info for agricultural extension services	Basic
Gillespie County Farm Bureau	Agriculture and rural issues	Basic
Stonewall Chamber of Commerce	Website to promote business and economic development	Basic
Harper Chamber of Commerce	Website to promote business and economic development	Basic
Free Wireless Hotspots	City of Fredericksburg has approximately eleven free wireless hotspots	Basic

Education (10 out of 10 Points Possible) – A community receives one point per basic use of broadband and two points per advanced use of broadband. Categories within education include K-12, higher education, and libraries. Identified uses of broadband in the area of education are listed below and identified as basic or advanced.

Application Provider	Description	Basic/ Advanced
Fredericksburg ISD	Parent portal; Online progress reports	Advanced
Harper ISD	Parent portal	Advanced
Texas Tech University	Online learning	Advanced
Austin Community College	Online learning	Advanced
Heritage School	Online application for admission	Advanced
Fredericksburg Christian Schools	Interactive website; Online admission	Advanced
Ambleside School of Fredericksburg	Website for public to learn more information	Basic
St. Mary's Catholic School	Interactive website where patrons can schedule a tour and pay tuition online	Basic

Government (10 out of 10 Points Possible) – A community receives one point per basic use of broadband and two points per advanced use of broadband. Categories within government include general government, public safety, energy, and the environment. Identified uses of broadband in the area of government are listed below and identified as basic or advanced.

Application Provider	Description	Basic/ Advanced
Atmos Energy	Provides customer online interaction: bill pay, account access	Advanced
City of Fredericksburg	50% of essential government services online	Advanced
Gillespie County	50% of essential government services online	Advanced
Gillespie Central Appraisal District	50% of essential government services online	Advanced
Central Texas Electric Co-op	Provides customer online interaction: bill pay, account access	Advanced
Harper Volunteer Fire Dept.	Website	Basic
Fredericksburg Volunteer Fire Dept.	Website	Basic

Healthcare (10 out of 10 Points Possible) – A community receives one point per basic use of broadband and two points per advanced use of broadband. Entities within healthcare can include, but are not limited to, hospitals, medical and dental clinics, health departments, nursing homes, assisted living facilities, and pharmacies. Identified uses of broadband in the area of healthcare are listed below and identified as basic or advanced.

Application Name	Description	Basic/ Advanced
Hill Country Memorial Hospital	Website for 88 bed community hospital	Advanced
Knopp Health Care Services	Website for four nursing/rehab facilities	Basic
Morningstar Memory Care	Website for Alzheimer's care facility	Basic
The Paige House	Website for retirement home	Basic
Heritage Place	Website for assisted living facility	Basic
TriStar Care Center	Group of family practice & internal medicine physicians	Basic
Fredericksburg Clinic	Group of family practice & internal medicine physicians	Basic
Hill Country Medical Clinic	Website for internal medicine physicians	Basic
Hill Country Urgent Care	Website: http://hcurgentcare.com	Basic
Fredericksburg Dentistry	Website for dental clinic: www.fredericksburgdentistry.com/contact-us.html	Basic

STATEWIDE PERSPECTIVE OF BROADBAND

Statewide Infrastructure

As part of the Texas State Broadband Initiative (SBI) and in partnership and at the direction of the Texas Department of Agriculture (TDA), Connected Texas produced an inaugural map of broadband availability in the spring of 2010. The key goal of the map was to highlight communities and households that remain unserved or underserved by broadband service; this information was essential to estimating the broadband availability gap in the state and understanding the scope and scale of challenges in providing universal broadband service to all citizens across the state. Since the initial map's release, Connected Texas has collected and released new data every six months, with updates in October and April annually.

The most current statewide- and county-specific broadband inventory maps released in the fall of 2012 depict a geographic representation of provider-based broadband data represented by cable, DSL, fiber-to-the-home, fixed wireless, and mobile wireless services. These maps also incorporate data such as political boundaries and major transportation networks in the state. Statewide broadband maps can be found at: http://www.connectedtx.org/mapping/state. And county-specific maps and data can be found at: http://www.connectedtx.org/community_profile/find_your_county/texas/gillespie.

Table 1 -Estimate of Broadband Service Availability in the State of Texas - By Speed Tier Among Fixed Platforms

SBI Download/Upload Speed Tiers	Unserved Households	Served Households	Percent of Served Households by Speed Tier
At Least 768 Kbps/200 Kbps	149,280	8,773,653	98.33%
At Least 1.5 Mbps/200 Kbps	438,867	8,484,066	95.08%
At Least 3 Mbps/768 Kbps	687,838	8,235,095	92.29%
At Least 6 Mbps/1.5 Mbps	1,519,149	7,403,784	82.97%
At Least 10 Mbps/1.5 Mbps	1,807,469	7,115,464	79.74%
At Least 25 Mbps/1.5 Mbps	4,140,402	4,782,531	53.60%
At Least 50 Mbps/1.5 mbps	4,200,526	4,722,407	52.92%
At Least 100 Mbps/1.5 Mbps	5,928,174	2,994,759	33.56%
At Least 1 Gbps/1.5 Mbps	8,922,933	0	0%

Source: *Connected Texas, November 2012*

Table 1 reports updated summary statistics of the estimated fixed, terrestrial broadband service inventory (excluding mobile and satellite service) across the state of Texas; it presents the number and percentage of unserved and served households by speed tiers. The total number of households in Texas, based on the 2010 Census, is 8,922,933, for a total population of approximately 25 million people. Table 1 indicates that 98.33% of households are able to connect to basic broadband service at speeds of at least 768 Kbps download/200 Kbps upload. This implies that the number of households originally estimated by Connected Texas to be unserved has dropped from 257,571 households in the fall of 2010 to 149,280 households in the fall of 2012. Further, approximately 687,838 households across Texas have broadband available of at least 3 Mbps download/768 Kbps upload speeds. The percentage of Texas households having fixed broadband access available of at least 6 Mbps download and 1.5 Mbps upload speeds is estimated at 82.97%.

Taking into account both fixed and mobile broadband service platforms, an estimated 99.90% of Texas households have broadband available from at least one provider at speeds of 768 Kbps download/200 Kbps upload or higher. This leaves 9,123 households in the state completely unserved by any form of terrestrial broadband (including mobile, but excluding satellite services).

As differences in broadband availability estimates between the fall of 2010 and the fall of 2012 show, additional participating broadband providers can have a large impact upon Texas broadband mapping inventory updates. Further, the measured broadband inventory provides an estimate of the true extent of broadband coverage across the state. There is a degree of measurement error inherent in this exercise that should be taken into consideration when analyzing the data. This measurement error will decrease as local, state, and federal stakeholders identify areas where the displayed coverage is underestimated or overestimated. Connected Texas welcomes such feedback to be analyzed in collaboration with broadband providers to correct errors identified in the maps.

In addition, the broadband availability data collected, processed, and aggregated by Connected Texas has been sent on a semi-annual basis to the NTIA to be used in the National Broadband Map, and comprises the source of Texas' broadband availability estimates reported by the NTIA and the FCC in the National Map. The National Broadband Map can be found here: http://www.broadbandmap.gov and the specific page for analyzing Texas' data can be found here: http://www.broadbandmap.gov/summarize/state/texas.

Connected Texas also maintains an interactive version of their broadband inventory maps, My ConnectView™, available at http://www.connectedtx.org/interactive-map.

Connected Texas' business technology assessment was released during the spring of 2011 and can be found here: http://www.connectedtx.org/survey-results/business.

Business and Residential Technology Assessments

To complement the broadband inventory and mapping data, Connected Texas periodically conducts statewide residential and business technology assessments to understand broadband demand trends across the state. The purpose of this research is to better understand the drivers and barriers to technology and broadband adoption and estimate the broadband adoption gap across the state of Texas. Key questions the data address are: who, where, and how are households in Texas using broadband technology? How is this technology impacting Texas households and residents? And, who is not adopting broadband service and why? What are the barriers that prevent citizens from embracing this empowering technology?

Through Connected Texas' research, many insights are able to be collected. The most recent residential technology surveyed 3,597 residents across the state and revealed the following key findings:

- Across the state, 62% of adults subscribe to home broadband service and 48% of adults access the Internet through a mobile device. Less than one in five (17%) of Texans do not use the Internet at home or at a location other than home.
- Adoption of home broadband service in rural Texas is only 48% of households in those areas and 37% of adults in rural Texas use a mobile device to access the Internet.
- Approximately 2 million home broadband subscribers in Texas cite the fact that broadband became available as their main reason for subscribing.
- Among Texans with full- or part-time employment, 21% use their home Internet connection to work from home rather than commute to a work place, known as teleworking.
- 1.4 million, or 20%, of Texas adults say a lack of digital skills and knowledge of how to use a computer and broadband is the main reason they don't have broadband at home.

For more information on the statewide information described, visit the Connected Texas website at http://www.connectedtx.org.

Additionally, an assessment on technology of 811 businesses in the state released in the report titled *Technology Adoption Among Texas Businesses* in the fall of 2012 revealed the following key findings:

- Businesses with high-speed Internet connections report having median annual revenues $200,000 more than businesses without broadband.
- One-half of all Texas businesses (approximately 261,000 businesses) have a website. Median annual revenues among broadband-connected businesses with websites are $300,000 higher than those without.
- Approximately 95% of Texas businesses using broadband today report that they are satisfied with their broadband service, with 64% answering that they are "Very Satisfied" with their broadband.
- Rural Texas businesses report needing more bandwidth at greater percentages than their urban or suburban counterparts.

- Approximately 27% of all businesses – and 28% of small businesses with fewer than five employees – do not use broadband for their daily business needs.
- Roughly one-quarter of state businesses allow employees to telework, allowing workers more flexibility and job opportunities, and helping businesses operate more efficiently.

Read more about the results of this business technology assessment at the Connected Texas website: http://www.connectedtx.org/sites/default/files/learn-sidebar-docs/tx_biz_2012.pdf

Analyzing Texas' Broadband Infrastructure and Business and Technology Assessments

Texas broadband availability and adoption estimates were analyzed and presented as part of an initial working report titled *The Broadband Landscape in the State of Texas: Assessment at a State, Regional & Local Level, and Recommendations for Broadband Expansion* which was released in March 2011. This report analyzes this complementary demand- and supply-side research and explores external factors, such as the impact of the federal Universal Service Fund (USF) and the policy implications of the Federal Communication Commission's (FCC) National Broadband Plan (NBP). Following the spirit of the NBP and based on the broadband availability and adoption data collected by Connected Texas, the report proposes a series of policy recommendations aimed to spur discussion and feedback among key stakeholders across Texas. This report is available at http://www.connectedtx.org/planning.

Other reports that have been compiled by Connected Texas include:
Broadband & Business: Leveraging Technology to Stimulate Economic Growth, July 2011
http://www.connectednation.org/sites/default/files/tx_bizwhitepaper_final.pdf

Texas Goes Mobile: Mobile Broadband Adoption and Satisfaction Across Texas, March 2012
http://www.connectedtx.org/sites/default/files/connected-nation/Texas/files/tx_mobile_usage.pdf

The Texas Digital Divide: An Assessment of Rural and Non-Rural Texans, June 2012
http://www.connectedtx.org/sites/default/files/connected-nation/Texas/files/tx_rural_non_rural_final.pdf

Making the Connection through Digital Literacy, August 2012
http://www.connectedtx.org/sites/default/files/connected-nation/Texas/files/tx_digital_literacy_final.pdf

Providing Learning Anywhere: K-12 Education in Texas, November 2012
http://www.connectedtx.org/sites/default/files/connected-nation/Texas/files/tx_elearning.pdf

RECOMMENDED ACTIONS

This project has culminated in the outlining of projects to close the gaps to becoming a certified technology Connected community. Connected Texas recommends the following actions:

ACCESS: Recommended Actions

Broadband Availability

1. Apply to USDA for Funding Support to Build out Broadband in Community

The USDA, through its Rural Development mission area, administers and manages housing, business, and community infrastructure and facility programs through a national network of state and local offices. Rural Development has an active portfolio of more than $165 billion in loans and loan guarantees. These programs are designed to improve the economic stability of rural communities, businesses, residents, farmers and ranchers and improve the quality of life in rural areas.

Farm Bill Loan Program – USDA

This program is designed to provide loans for funding, on a technology neutral basis, for the costs of construction, improvement, and acquisition of facilities and equipment to provide broadband service to eligible rural communities.

Additional Information:

- Direct loans are in the form of a cost-of-money loan, a 4-percent loan, or a combination of the two.

Eligibility:

- Must be a rural area. Rural area means any area, as confirmed by the latest decennial census by the U.S. Census Bureau, which is not located within: (a) A city, town, or incorporated area that has a population of more than 20,000 people; or (b) An urbanized area contiguous and adjacent to a city or town with a population of more than 50,000 people. An urbanized area means a densely populated territory as defined in the latest decennial census.

- To be eligible for a broadband loan, an applicant may be either a nonprofit or for-profit organization, and must take one of the following forms: (1) Corporation; (2) Limited liability company (LLC); (3) Cooperative or mutual organization; (4) Federally recognized Indian tribe or tribal organization; or (5) State or local government, including any agency, subdivision, or one of their units.
- A service area may be eligible for a broadband loan if all of the following are true: (1) The service area is completely contained within a rural area; (2) At least 25 percent of the households in the service area are underserved households; (3) No part of the service area has three or more incumbent service providers; (4) No part of the funded service area overlaps with the service area of current RUS borrowers and grantees; (5) No part of the funded service area is included in a pending application before RUS seeking funding to provide broadband service.

Community Connect Program – USDA
Provides community access to broadband services in unserved areas through a one-time grant to such organizations as tribes, cooperatives, private companies, and universities, and uses the infrastructure built by the grant to create opportunities for continued improvement.

Additional Information:
- The funding will support construction, acquisition, or lease of facilities, including spectrum, to deploy broadband transmission services to all critical community facilities and to offer such services to all residential and business customers located within the proposed service area.
- The funding can be put towards the improvement, expansion, construction, acquisition, or leasing of a community center that furnishes free access to broadband Internet service, providing that the community center is open and accessible to area residents before, during, and after normal working hours and on Saturday or Sunday.
- All equipment purchases with grant and/or matching funds must be new or non-depreciated.

Eligibility:
- Must be single community with a population of less than 20,000 that does not have Broadband Transmission Service.
- Applicants must be organized as an incorporated organization, an Indian tribe or tribal organization, a state or local unit of government, or other legal entity, including cooperatives or private corporations or limited liability companies organized on a for-profit or not-for-profit basis.

- The project must deploy Basic Broadband Transmission Service, free of all charges for at least 2 years, to all Critical Community Facilities located within the proposed Service Area. Additionally, it should offer Basic Broadband Transmission Service to residential and business customers within the proposed Service Area.

Contact Information:
Point of Contact: Thera Swersky or Steven Levine
Telephone: (202) 690-4673.
E-mail: community.connect@wdc.usda.gov
Website: http://www.rurdev.usda.gov/utp_commconnect.html

Distance Learning and Telemedicine Loans and Grants Program – USDA
Provides loans and grants to rural community facilities (e.g. schools, libraries, hospitals, and tribal organizations) for advanced telecommunications systems that can provide healthcare and educational benefits to rural areas.

Additional Information:
- The Distance Learning and Telemedicine Loans and Grant Program (DLT Program) provides three kinds of financial assistance: a full grant, grant-loan combination, and a full loan.

Eligibility:
To be eligible for a grant, your organization must:
- Currently deliver or propose to deliver distance learning or telemedicine services for the term of the grant. To receive a grant, the purposes must meet the grant definition of distance learning and telemedicine. The DLT program is focused on sustainability. Planning studies, research projects, and short-term demonstration projects of less than two years will not be considered.
- Be legally organized as an incorporated organization or partnership; an Indian tribe or tribal organization; a state or local unit of government; a consortium; or other legal entity, including a private corporation organized on a for-profit or not-for-profit basis with the legal capacity to contract with the United States Government.
- Operate a rural community facility or deliver distance learning or telemedicine services to entities that operate a rural community facility or to residents of rural areas at rates calculated to ensure that the benefit of the financial assistance passes through to such entities or to residents of rural areas.

Contact Information:
Point of Contact: Sam Morgan
Telephone: (202) 720-0665
E-mail: dltinfo@wdc.usda.gov
Website: http://www.rurdev.usda.gov/UTP_DLT.html

Universal Service Rural Health Care Program – Universal Service Administration Company
The Rural Health Care program supports healthcare providers serving rural communities by funding telecommunications services necessary for the provision of healthcare. The program is intended to ensure that rural healthcare providers pay no more for telecommunications in the provision of healthcare services than their urban counterparts.

Additional Information:

- Public and non-profit healthcare providers in rural areas can receive discounts on installation and monthly charges for telecommunications and Internet access service used for the provision of healthcare by using one of two methods: a mileage-based calculation, or a calculation of the "urban rate" to receive support equal to the difference between what they pay and what they would pay if they were receiving the service in any city in their state with a population of 50,000 or more.
- The rural healthcare provider must submit a form requesting services to the Universal Service Administrative Company (USAC). Once the form is approved, it is posted on USAC's website seeking bids from telecommunications companies interested in providing the requested services. After the rural healthcare provider selects a provider from qualified bidders and USAC has approved the funding request, the services may begin. Support from the USF is then used to help pay for eligible services provided to the rural healthcare provider.

Eligibility:
Eligible organizations include:

- post-secondary educational institutions offering healthcare instruction, including teaching hospitals and medical schools;
- community health centers or health centers providing healthcare to migrants;
- local health departments or agencies;
- community mental health centers;
- not-for-profit hospitals;
- dedicated emergency departments in rural for-profit hospitals;
- rural healthcare clinics;
- part-time eligible entities located in facilities that are ineligible; and
- groups of healthcare providers consisting of one or more entities described above.

Contact Information:
Telephone: (800) 229-5476
E-mail: rhc-admin@usac.org
Website: http://www.universalservice.org/rhc/default.aspx

Broadband Speeds

No recommended actions.

Broadband Competition

2. Develop Public-Private Partnerships to Deploy Broadband Service

Public-private partnerships take many forms, limited only by the imagination and legal framework in which the municipality operates. Some communities issue municipal bonds to fund construction of a network, which they lease to private carriers, with the lease payments covering the debt service. Others create non-profit organizations to develop networks in collaboration with private carriers or provide seed investment to jumpstart construction of networks that the private sector is unable to cost-justify on its own.

A public-private partnership should not be simply seen as a method of financing. The strength of these partnerships is that each party brings something important to the table the other doesn't have or can't easily acquire. The community can offer infrastructure (publicly-owned building rooftops, light poles, towers, and other vertical assets for mounting infrastructure) for the deployment of the system, as well as committed anchor tenants. Private-sector partners bring network-building and operations experience.

Benefits:

- The public sector transfers much of the risk for private investment. For example, the public sector has many funding tools available, including incentivizing continued investment through tax credits, encouraging greater availability of private capital through government guaranteed loans, or government being a direct source of capital through loans or grants.
- The partnership can aggregate demand and reduce barriers to deployment. By working together, public and private parties can educate and build awareness needed for the public to better integrate the use of broadband into their lives, thereby improving the business case for broadband deployment.

3. Study and Possibly Reassess Major Telecom Purchase Contracts

Demand for broadband capacity across community institutions represents a key segment of the overall demand for broadband in many communities. The purchasing power of this collective should be leveraged to help promote greater competition in the broadband market and drive increased investment in backhaul and last mile broadband capacity.

Benefits:

- By aggregating demand within a local community, these institutions will be able to demonstrate to interested broadband providers existing pent-up demand and help justify private investments to bring greater capacity backhaul service to that community.
- The increased backhaul capacity can in turn benefit the whole community.

Middle Mile Access

No recommended actions.

Mobile Broadband Availability

4. Identify, Map, and Validate Broadband Demand

Develop a team to conduct research surveys and market analyses to validate a business case. A market analysis includes research on the existing and potential service offerings and the respective rates to determine the levels of interest in the services and rate plans offered by the client. The team should provide accurate, timely, and thorough solutions, accompanied by personalized service to meet the needs of communities or broadband providers.

Benefits:

- Enables the ability to better understand the key drivers of the broadband market.
- Validates the business case for network build out and capacity investment.

5. Perform a Broadband Build-out Analysis in Unserved Areas

Conduct an onsite visual assessment of the defined geographic area seeking broadband coverage. The assessment determines the feasibility of deploying various Internet systems in a defined area. You should gather site specific information required for (i) determining use of existing infrastructure, (ii) designing wired and wireless Internet system using these assets, and (iii) expanding the broadband coverage in the defined area.

Wireless may be the best likely solution. To assist with that, you should conduct a visual assessment of the vertical assets (broadcast towers and water tanks) to determine the feasibility of deploying a fixed wireless broadband Internet system in the unserved community and to gather site-specific information required for that purpose.

Benefits:

- Determines project feasibility and provides information to develop a business case for build-out.
- First step in providing unserved community residents with adequate broadband access.

6. Complete a Vertical Assets Inventory

Wireless communications equipment can be placed in a wide variety of locations, but ideally, wireless providers look for locations or structures in stable condition, with reasonably easy access to electricity and wired telecommunications, and with a significant height relative to the surrounding area. "Vertical assets" are defined as structures on which wireless broadband equipment can be mounted and positioned to broadcast a signal over as much terrain as possible. These assets include structures such as cell towers, water tanks, grain silos, and multi-story buildings.

The lack of easily accessible and readily usable information regarding the number and location of vertical assets prevents the expansion of affordable, reliable wireless broadband service. Wireless broadband providers must determine if it is worth the effort and expense to collect and analyze this data when making investment decisions. Public sector organizations are faced with the same challenges. A centralized and comprehensive vertical assets inventory can help wireless broadband providers expedite decisions regarding the deployment of affordable, reliable broadband service in rural areas.

Benefits:

- The vertical assets inventory provides data for private and public investment decisions, lowering the initial cost of efforts needed to identify potential mounting locations for infrastructure.
- The inventory can encourage the expansion of affordable, reliable wireless broadband services to underserved areas by shortening project development time.

7. Perform Analysis of Local Policies and Ordinances

High capital investment costs, including permit processing, pole attachment costs, and lack of effective planning and coordination with public authorities negatively impact the case for deployment. For example, the FCC's National Broadband Plan concludes that, "the rates, terms, and conditions for access to rights of way [including pole attachments] significantly impact broadband deployment." The costs associated with obtaining permits and leasing pole attachments and rights-of-way are one of the most expensive cost functions in a service provider's plans to expand or upgrade service, especially in rural markets where the ration of poles to households goes off the charts. Furthermore, the process is time consuming. "Make ready" work, which involves moving wires and other equipment attached to a pole to ensure proper spacing between equipment and compliance with electric and safety codes can take months to complete.

Community and provider collaboration to problem solve around local pole attachment and other right of way issues is one of the most effective opportunities to encourage faster, new deployment of infrastructure.

Benefits:

- Lowers cost barriers to improve the business case for broadband deployment.
- Encourages good public policy and provider relations.

8. Develop & Issue an RFP for Build-out

An RFP (request for proposals) is a widely used technique for establishing a selection of qualified responses for which to choose when contracting for services. The RFP should provide a guidance and due diligence framework for interested broadband providers and vendors. Furthermore, the RFP should request that interested parties provide plans for cost-effective community broadband networks, including equipment lists, locations, and itemized engineering cost estimates. In addition, the completed design should also include what technology will be needed at customer premises, the performance that can be expected, and recurring costs associated with operating and maintaining the system once it is in place.

Benefits:

- After completing an RFP, your community will have a good handle on the potential project risks, as well as benefits, associated with build out.

- An RFP lets providers know that the situation will be competitive. The competitive bidding scenario is often the best method available for obtaining the best pricing and, if done correctly, the best value.

ADOPTION: RECOMMENDED ACTIONS

Digital Literacy

9. Facilitate a Technology Summit

Develop and host a technology summit of residents and businesses to increase awareness of broadband value, service options, and the potential impact on quality of life. The technology summit should facilitate community partnerships between leaders in local government and the private sector, including non-profits and private businesses in the education, healthcare, and agriculture sectors with the goal of ensuring that residents have at least one place in the community to use powerful new broadband technologies, and that this asset will be sustained over time. Further, the technology summit should highlight success stories as evidence of the impact of technology.

Benefits:

- Highlights successes, opportunities, and challenges regarding community technology planning.
- Develops ongoing dialogue around improving broadband access, adoption, and use.
- Unifies community stakeholders under one vision.

10. Distribute Digital Literacy Content

Leverage the abundant digital literacy content available online to distribute to local trainers. Currently, numerous non-profit organizations and for-profit corporations provide curriculum that can be adapted for classroom or self-paced study. Some organizations also provide additional resources for instructor use, including classroom setup information, teaching tips for each course, additional practice, test item files, and answers to frequently asked questions. Digital literacy content can be deployed via local websites (a community portal), print material, podcasts, blogs, and videos.

Additionally, your community could create a partnership between libraries, school systems, computer suppliers, and broadband providers to provide free training and discounted computers and broadband service to low-income community members who are not participating in the digital age. An example of such a program is Connected Nation's Every Community Online program. This is an innovative program that is providing free digital literacy

training, access to low-cost computers, and discounted broadband access to communities across the country.

Benefits:

- Increasing the community's digital literacy facilitates widespread online access to education and other public and government services, provides equal access to opportunities such as jobs and workforce training, enables people to find information about their health, and offers the opportunity to increase levels of social interaction and civic involvement.

11. Develop or Identify a Broadband Training and Awareness Program for Small & Medium Businesses

Methods of implementing a small and medium business broadband awareness program include, but are not limited to, facilitating awareness sessions, holding press conferences led by community leaders, inviting speakers to community business conferences or summits, and public service announcements. It is also important to educate local businesses on Internet tools that are available at minimum or no cost to them.

A training program or entry-level "Broadband 101" course could be utilized to give small and medium businesses an introduction on how to capitalize on broadband connectivity, as well as more advanced applications for IT staff. In addition, training should include resources for non-IT staff, such as how to use commerce tools for sales, streamline finances with online records or leverage knowledge management across an organization. Additional training might include:

- "How to" training for key activities such as online collaboration, search optimization, cybersecurity, equipment use, and Web 2.0 tools.
- Technical and professional support for hardware, software, and business operations.
- Licenses for business applications such as document creation, antivirus and security software, and online audio- and videoconferencing.
- Website development and registration.
- Basic communications equipment, such as low-cost personal computers and wireless routers.

Benefits:

- Provides entrepreneurial support.
- Eliminates knowledge gap about how best to utilize broadband tools, increasing productivity.
- Promotes business growth and workforce development.
- Broadband empowers small businesses to achieve operational scale more quickly by lowering start-up costs through faster business registration and improved access to customers, suppliers, and new markets. According to Connected Nation's 2012 Jobs and

Broadband Report, businesses that are using the Internet bring in approximately $300,000 more in median annual revenues than their unconnected counterparts.

12. Establish a "Community Technology Academy"

Develop partnership between libraries, community centers, churches (places with computer labs for public use) and schools, community colleges and universities (places with subject matter experts) to develop a "Community Technology Academy." Providers, local businesses and community volunteers may be included to provide financial and/or in-kind support for the program. Academy curriculum should include basic training in areas such as "Introduction to Computers," "Internet Basics," social networking, using communication technologies, and the use of applications such as Microsoft Office, OpenOffice, or Google Docs.

Benefits:

- Creates a more digitally literate and competent populace
- Develops community's human capital

13. Create a Technology Mentorship Program

Initiate a program designed to recruit local high school or college students who excel in school and exhibit advanced leadership and technology skills to assist in technology training, technical support, and outreach efforts in their communities. Recognizing students as a powerful resource for local outreach efforts, the program will challenge students to extend their technology experiences beyond the classroom. The program essentially taps into a technology knowledge base that exists through these exceptional students. Students will be required to develop programs such as training seniors to use computers, initiating a computer refurbishing program, offering basic computer training for local communities, building websites, etc.

Benefits:

- The program helps students develop self-confidence and technical competencies as they work with their families, leaders, peers, neighbors, seniors, and other members of their communities. In addition to empowering these students with real-world experience, it helps enhance their skills as they mature into productive and highly competent citizens.
- It helps to build character by awarding students opportunities to give back to their communities and embrace responsibilities associated with community service.
- The program will engage students who are creative, knowledgeable, and interested in technology as a great resource for planning, implementation, support, and using technology at a local level. With guidance and support, they will help to provide a missing, and important, link between the members of the community who have experience with broadband technology and those who are currently not using it.
- The program will expose students to potential career paths and provide a basis to determine if they want to further their educations in a technology field. It could also

potentially provide a beginning client base from the relationships he or she has built within the community as a student.

14. Procure a Multipurpose Mobile Technology Center

Partner with the public library or school system to acquire a bus (or equip a bookmobile) with laptop computers and wireless Internet service to deliver technology access and programs to unserved residents in remote areas in the community. Equipped with an instructor, the mobile technology center should provide digital literacy classes, job search assistance, e-learning programs, information during community events, and emergency assistance. Beyond training and education, the mobile technology center should be utilized to target and reach unserved or underserved members of the community and to provide them a medium for participating in the community's technology-planning process.

Examples of existing mobile technology centers include:

- St. Louis Community College Mobile Tech Center
- El Paso Public Library Tech-Mobile
- State Library of Ohio Mobile Technology Training Center
- Pike County Public Library District Mobile Technology Center

Benefits:

- Improves digital literacy skills of community.
- Provides outreach and awareness.
- Provides opportunity for residents to participate in community's technology-planning process.

Public Computer Access

No recommended actions.

Broadband Awareness

No recommended actions.

Vulnerable Population Focus

No recommended actions.

USE: RECOMMENDED ACTIONS

Economic Opportunity

No recommended actions.

Education

15. Improve Education through Digital Learning

Several digital learning platforms are available for K-12 implementation. For example, CFY is a national education nonprofit that helps students in low-income communities, together with their teachers and families, harness the power of digital learning to improve educational outcomes. The organization is unique in that it operates both "in the cloud" (through PowerMyLearning.com, a free K-12 online learning platform) and "on the ground" (through its Digital Learning Program, a whole school initiative that works hands-on with all three of the constituents that impact student achievement: teachers, parents, and students).

PowerMyLearning.com is a free online educational tool that helps students, teachers and parents locate and access over 1,000 high-quality online digital learning activities — videos, simulations, and other educational software — to propel student achievement in subjects including math, English, science, and social studies. The platform has a kid-friendly design. There is a playpoint/badge feature to help motivate students. In addition, students can rate digital learning activities and share them with friends via e-mail, Facebook, and Twitter. CFY also provides onsite training to teach teachers how to integrate PowerMyLearning into their classrooms.

Benefits:

- Increase learning time by extending learning beyond the classroom walls.
- Individualize learning and increase student engagement in school.
- Encourage self-directed learning.
- Enable parents to more effectively support their children at home.

Government

No recommended actions.

Healthcare

No recommended actions.

APPENDIX 1: PARTNER AND SPONSORS

Connected Texas, in partnership with the Texas Department of Agriculture, supports Texas' reinvention and technological transformation through innovation, job creation, and entrepreneurship via the expansion of broadband technology and increased usage by Texas residents. In 2009, Connected Texas partnered with the Texas Department of Agriculture (TDA) to engage in a comprehensive broadband planning and technology initiative as part of the national effort to map and expand broadband. The program began by gathering provider data to form a statewide broadband map, and has progressed to the planning and development stage. At this point the program is expanding to include community engagement in local technology planning, identification of opportunities with existing programs, and implementation of technology projects designed to address digital literacy, improve education, give residents access to global Internet resources, and stimulate economic development.
http://www.connectedtx.org

The Texas Legislature established the **Texas Department of Agriculture** in 1907. The agency's key objectives are to promote production agriculture, consumer protection, economic development, and healthy living. The agriculture commissioner oversees the agency and is elected every four years. The current commissioner, Todd Staples, was first elected in 2006 and re-elected to a second term in 2010.

TDA is a diversified state agency that provides value-added services through its regulatory and marketing initiatives. TDA is headquartered in Austin and has five regional service offices, six satellite offices, six laboratories, and six livestock export facilities.

TDA's mission is to partner with all Texans to make Texas the nation's leader in agriculture, fortify our economy, empower rural communities, promote healthy lifestyles, and cultivate winning strategies for rural, suburban, and urban Texas through exceptional service and the common threads of agriculture in our daily lives.
http://texasagriculture.gov/

Connected Nation (Connected Texas' parent organization) is a leading technology organization committed to bringing affordable high-speed Internet and broadband-enabled resources to all Americans. Connected Nation effectively raises the awareness of the value of broadband and related technologies by developing coalitions of influencers and enablers for improving technology access, adoption, and use. Connected Nation works with consumers, community leaders, states, technology providers, and foundations, including the Bill & Melinda Gates Foundation, to develop and implement technology expansion programs with core competencies centered on a mission to improve digital inclusion for people and places previously underserved or overlooked.
http://www.connectednation.org

National Telecommunications and Information Administration (NTIA) is an agency of the United States Department of Commerce that is serving as the lead agency in running the State Broadband Initiative (SBI). Launched in 2009, NTIA's State Broadband Initiative (SBI) implements the joint purposes of the Recovery Act and the Broadband Data Improvement Act, which envisioned a comprehensive program, led by state entities or non-profit organizations working at their direction, to facilitate the integration of broadband and information technology into state and local economies. Economic development, energy efficiency, and advances in education and healthcare rely not only on broadband infrastructure, but also on the knowledge and tools to leverage that infrastructure.

NTIA has awarded a total of $293 million for the SBI program to 56 grantees, one each from the 50 states, 5 territories, and the District of Columbia, or their designees. Grantees such as Connected Texas are using this funding to support the efficient and creative use of broadband technology to better compete in the digital economy. These state-created efforts vary depending on local needs but include programs to assist small businesses and community institutions in using technology more effectively, developing research to investigate barriers to broadband adoption, searching out and creating innovative applications that increase access to government services and information, and developing state and local task forces to expand broadband access and adoption.

Since accurate data is critical for broadband planning, another purpose of the SBI program is to assist states in gathering data twice a year on the availability, speed, and location of broadband services, as well as the broadband services used by community institutions such as schools, libraries, and hospitals. This data is used by NTIA to update the National Broadband Map, the first public, searchable nationwide map of broadband availability launched February 17, 2011.